BioSocial Health J 2024; 1(1): 26-32
doi:10.34172/bshj.4
https://biosocialhealthjournal.com

BioSocial
Health Journal

Original Article

Enabling mothers through improving mental health literacy and parenting skills

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Abstract

Introduction: Mothers often lack insight into their influence on the mental health of their children and may not possess adequate mental health literacy and parenting skills. This study aimed to explore the impact of mental health literacy and parenting skills on the effectiveness of mental health promotion programs for mothers.

Methods: A quasi-experimental design was employed in Tabriz, Iran, with two groups – a control group and an intervention group – each comprising 126 participants. The intervention group received comprehensive information and skills related to mental health literacy and parenting. Statistical analysis was conducted using SPSS software version 21, with a significance level set at 0.05.

Results: Our findings revealed that the intervention group surpassed the control group in all outcome measures. Significant improvements were observed in the intervention group across all variables of interest after one and eight weeks, compared to pre-intervention levels ($P<0.001$). Conversely, no significant differences were noted in the control group.

Conclusion: These results are promising, suggesting that programs focused on enhancing mental health literacy and parenting styles can empower mothers to play a more effective role in their children's mental health.

Keywords: Mental health, Health literacy, Parenting, Mothers

Received: January 1, 2024, **Accepted**: January 2, 2024, **ePublished**: March 17, 2024

Introduction

The preservation of mental well-being and the prevention of mental disorders stand as primary objectives in public health,[1] particularly at the community level. Mental health literacy (MHL) assumes a pivotal role in advancing individuals' mental health status.[2,3] Substantial evidence supports the notion that augmenting MHL serves as an effective strategy for mental health improvement and prevention.[4] Conversely, studies highlight that a deficiency in MHL correlates with mental disorders and delays in seeking psychological assistance.[5,6]

MHL encompasses individuals' knowledge regarding specific mental disorders, contributing to prevention or management of such conditions.[7] Parents play a crucial role in recognizing their children's problems and promoting help-seeking behaviors.[8] To effectively assist children with mental health problems, parents must possess adequate MHL.[7] Several studies reveal that parental MHL tends to be generally lower.[9] Insufficient knowledge about the causes, symptoms,[10,11] and treatments[12] of mental health problems poses challenges in recognizing such issues in their children.[13, 14] A systematic review suggests that despite parents' potential to identify their children's mental health problems, the lack of parental MHL could be a target for future research and interventions.[15] Additionally, studies support the idea that mothers play a more significant role in children's mental health.[16,17] Mothers, especially in younger adolescents' development, wield considerable influence, particularly among daughters.[18] Consequently, maternal health literacy empowers women to address factors affecting outcomes for both mothers and children.[19,20]

Moreover, parents, as integral components of the home environment, exert direct and indirect influence on their children's outcomes through their parenting styles.[21] Parenting styles are critical social and environmental factors shaping children and adolescents' development.[12] These styles are pivotal and modifiable factors contributing to adolescent mental health.[22, 23] Authoritatively raised children tend to exhibit independence, self-confidence,

and emotional stability more frequently.[24, 25] They also demonstrate enhanced performance, superior social skills, and more effective coping strategies in school compared to children raised with other parenting styles.[26,27] Reports suggest that mothers have a more substantial impact on their children's mental well-being than fathers,[28] spending more than twice as much time with their children.[29]

Consequently, health institutions[4,30] advocate for comprehensive, integrated, and evidence-based programs to detect and enhance the mental health of young people, particularly in settings such as schools.[31] They acknowledge educational centers as ideal environments for promoting health and emotional well-being.[31,32] To the best of our knowledge, this study represents the first attempt to evaluate the effectiveness of a Mental Health Literacy & Parenting Styles program in Iran. Furthermore, we assessed MHL programs of varying durations, with the primary aim of determining whether the intervention has a short-term (post-intervention) and long-term (8-week follow-up) impact on increasing MHL and parenting skills among mothers.

Materials and Methods

Study design and participants

This quasi-experimental study with a control group was conducted among mothers of female high school students in grades eight and nine in Tabriz, Iran, spanning from September to December 2020. Within the five educational districts of Tabriz, one district with five sub-districts was randomly chosen. Subsequently, two high schools with similar educational and environmental characteristics were randomly selected within the chosen sub-district, designating them as the intervention and control groups. Upon coordination with the Education organization, mothers of all 8th and 9th graders (n = 130) were invited to participate, with 126 meeting the inclusion criteria (126 in the intervention and 126 in the control groups). The inclusion criteria comprised mothers with daughters in eighth and ninth grades, along with their consent to participate. Exclusion criteria included having a university education in psychology, medicine, or nursing, severe psychological disorders under psychiatric treatment (such as schizophrenia, delusional disorders, depression, and bipolar disorders), illiteracy, and the unwillingness of mothers to continue cooperation.

The study unfolded in two stages. In the initial stage, all mothers in both the intervention and control groups were evaluated for the study's main variables. The second stage, guided by the pretest data analysis, employed CDC guidelines for improving health literacy[33] and implemented the Parent Information Network (PIN) strategy. The program spanned three months, and assessments were conducted at three points in time (pre-intervention, one-week post-intervention, and eight weeks' post-intervention). Participants who did not consistently attend at least 80% of the sessions were excluded from the post-test data collection and follow-up. The intervention program was explained to all participants, emphasizing the study's purpose and ensuring the confidentiality of their information. The control group did not receive any educational intervention.

Intervention

The intervention comprised a comprehensive training program delivered over seven two-hour sessions, held twice per week. Educational materials were tailored based on information gathered during the pre-test stage, focusing on children's mental health problems, parental dissatisfaction, and communication issues within families. The intervention program encompassed active mother participation, the establishment and enhancement of communication networks, provision of informational resources to empower mothers in promoting their children's mental health, development of effective parenting skills, and enhancement of maternal MHL. Sessions were conducted collaboratively by one of the researchers and a psychologist. Table 1 outlines the key topics covered in each session. Educational methods included lectures, question-and-answer sessions, and PowerPoint presentations aligned with each session's content.

Instruments

Demographics

Demographic data encompassed details such as the mother's occupation, literacy level, number of family members, and a record of visits to a psychiatrist.

Mental health literacy

To assess the MHL of participants, the Persian version of the Mental Health Literacy Scale (P-MHLS) was employed. The P-MHLS is a self-reported tool, featuring 30 items rated on a 4-point (1–4) or a 5-point (1–5) Likert-type scale. The total score's theoretical range is 30 to 137, with higher scores indicative of elevated levels of MHL.[34]

Parenting Style-Four Factor Questionnaire

The Parenting Style-Four Factor Questionnaire (PS-FFQ)[35] is a self-reported tool comprising 32 items rated on a 5-point Likert scale ranging from 1 to 5. The theoretical range for the total score is 32 to 160, with higher scores indicating elevated levels of each parenting style.[36]

Statistical Methods

Prespecified statistical analyses were conducted using IBM SPSS Statistics, version 27.0.[37] Analytical techniques included the chi-square test of independence,

Table 1. Profile of the proposed training program for mothers

Meetings	Topic of each session
Session 1	Introducing the program and its goals includes a) the necessity of regular participation in all meetings and the application of adult learning theory with emphasis on some of the constructs of this theory (need to know, use of mothers' previous experiences, preparation and motivation) to encourage mothers to attend meetings; b) Emphasizing the role of mothers as an important role model for their children, the necessity of applying the skills and healthy behaviors taught in daily life by applying social learning theory and following up in the next session; c) establishing relationships with other group members and active participation in group activities; d) coordination in the implementation of group activities; e) training mothers to have proper relationships with their children and the need to respond to their children's needs based on attachment theory; f) Survey of mothers about the day and time of meetings for more attendance and participation.
Session 2	Training to understand how to obtain and maintain mental health with the content a) causes and prevalence of mental disorders in adolescents, b) importance of mental health for health, c) strategies to mental health promotion, d) ten steps to maintain good mental health.
Session 3	How to obtain and maintain mental health with the content of 6 important components for promoting mental health based on the Carol Ryff model (self-acceptance, personal growth and development, having a purpose in life, having positive relationships with others, mastering the surrounding environment, having independence).
Session 4	Symptomatology of mental disorders in teenagers with content a) depression and important factors in preventing depression b) morbid fear of being in public c) fear of crowded places d) general anxiety e) personality disorders f) bipolar disorder g) drug addiction, and h) cognitive-behavioral therapy.
Session 5	Teaching parenting skills with an emphasis on authoritative style.
Session 6	Teaching issues in the field of seeking help in case of children having psychological problems and introducing mothers to the centers and agencies that help.
Session 7	Teaching aggression control skills and effective strategies for aggression control.

independent samples t-test, analysis of covariance (ANCOVA), one-way analysis of variance (ANOVA), and repeated measure ANOVA. The level of significance was predetermined at 0.05.

Results

Initially, there was no statistically significant difference between the intervention and control groups concerning demographic and MHL score variables, except for job status. In all pretest group differences analyses, none were statistically significant, as anticipated due to the random assignment of participants, confirming pre-experimental equivalence. Results are summarized in Table 2.

Group differences based on total MHL, the domains of MHL, and parenting style (authoritative, authoritarian, permissive, and uninvolved) are outlined in Table 3.

As depicted in Table 3, the MHL intervention program significantly enhanced the total mean MHL score and its relevant domains, including the ability to recognize mental disorders, confidentiality of mental health practitioners, skills in seeking mental health information, beliefs about mental illnesses, and attitudes toward patients with mental illness after one week ($P<0.001$). These improvements were sustained after eight weeks ($P<0.001$) in the intervention group. All group differences were statistically significant, favoring the intervention group.

Furthermore, our results in Table 4 reveal that the parenting skills development program, in conjunction with the MHL improvement initiative, contributed to enhanced parenting skills favoring the authoritative parenting style within the intervention group. Consequently, the scores for authoritarian, permissive, and uninvolved parenting styles shifted towards the authoritative parenting style, and all group differences were statistically significant ($P<0.001$).

Table 2. Comparison of background variables in experimental and control groups

Variable	Experimental group, No. (%)	Control group, No. (%)	*P* value
Mother's job			
Housewife	121 (96.0)	107 (84.9)	<0.001
Employed	5 (4.0)	19 (15.1)	
Mother's education level			
Elementary school	67 (53.2)	55 (43.7)	0.118
High-school diploma	53 (42.1)	65 (51.6)	
University	6 (4.8)	6 (4.8)	
Wife's education			
Elementary school	66 (52.4)	60 (47.6)	0.427
High-school diploma	41 (32.5)	56 (44.4)	
University	19 (15.1)	10 (7.9)	
Mothers' mental health literacy Score			
0-20 (Very low)	8 (6.3)	3 (2.4)	0.302
20-40 (Low)	70 (55.6)	74 (58.7)	
40-60 (Average)	48 (38.1)	49 (38.9)	
60-80 (High)	0 (0)	0 (0)	
Number of family Members			
≤3	13 (10.3)	22 (17.5)	0.07
4	87 (69.0)	91 (72.2)	
>4	26 (20.6)	13 (10.3)	
Being visit by psychiatrist			
Yes	17 (13.5)	9 (7.1)	0.07
No	109 (86.5)	117 (92.9)	

*Chi square test.

Moreover, repeated measures ANOVA demonstrated statistically significant intra-group differences within the intervention group, indicating a notable time effect ($P<0.05$). Specifically, the findings showed significant

Table 3. Intergroup and intragroup comparisons of mental health literacy, and dimensions of mental health literacy

Variables	Time	Intervention group M (SD)	Control group M (SD)	*P* value	*P* value for interaction
Mental health literacy	Before	1089.65 (274.78)	1133.30 (230.13)	0.1733	<0.001
	After 1 week	2006.09 (223.38)	1131.59 (231.66)	<0.001#	
	After 8 weeks	1866.37 (196.90)[a, b]	1130.66 (232.26)	<0.001#	
	P value	<0.001	0.246		
Ability to recognize mental disorders	Before	326.09 (135.09)	343.29 (101.64)	0.255£	<0.001
	After 1 week	816.25 (119.37)[a]	342.76 (101.52)	<0.001#	
	After 8 weeks	736.64 (114.41)[a, b]	342.24 (102.35)	<0.001#	
	P value	<0.001	0.061		
Confidentiality of mental health practitioners	Before	92.32 (36.56)	82.27 (61.80)	0.118£	<0.001
	After 1 week	152.13 (51.20)[a]	82.27 (61.80)	<0.001#	
	After 8 weeks	149.76 (43.96)[a]	82.27 (61.80)	<0.001#	
	P value	<0.001			
Skills of mental health information seeking	Before	146.42 (82.56)	158.73 (65.29)	0.191£	<0.001
	After 1 week	300.79 (47.21)[a]	158.73 (65.29)	<0.001#	
	After 8 weeks	301.19 (45.37)[a]	158.53 (65.43)	<0.001#	
	P value	<0.001	0.319		
Beliefs about mental illnesses	Before	273.21 (85.39)	279.76 (81.22)	0.533£	<0.001#
	After 1 week	320.23 (50.86)[a]	278.96 (81.51)	<0.001#	
	After 8 weeks	310.31 (46.28)[a, b]	278.76 (81.61)	<0.001#	
	P value	<0.001	0.122		
Attitudes toward patients with mental illness	Before	251.58 (121.97)	269.24 (130.46)	0.268£	<0.001
	After 1 week	416.66 (108.53)[a]	268.84 (130.29)	<0.001#	
	After 8 weeks	368.45 (107.38)[a, b]	268.84 (130.14)	<0.001#	
	P value	<0.001	0.355		

MD: mean difference (between groups.
£ Independent samples t test.
#ANCOVA: adjusted to pre intervention variable (mother job).
*Repeated Measure ANOVA; a) significant difference with before; b) significant difference with after one week.

Table 4. Intergroup and intragroup comparisons of parenting style (authoritative, authoritarian, permissive end uninvolved)

Variables	Time	Intervention group M (SD)	Control group M (SD)	*P* value	*P* value for interaction
Authoritative	Before	27.78 (4.54)	28.13 (4.36)	0.535£	<0.001
	After 1 week	29.30 (4.10)[a]	28.11 (4.38)	<0.001#	
	After 8 weeks	29.34 (3.08)[a,b]	28.09 (4.39)	<0.001#	
	P value	<0.001	0.064		
Authoritarian	Before	14.83 (3.64)	14.92 (3.67)	0.837£	<0.001
	After 1 week	8.92 (1.77)[a]	14.95 (3.67)	<0.001#	
	After 8 weeks	10.37 (2.30)[a]	15.01 (3.66)	<0.001#	
	P value	<0.001	0.135		
Permissive	Before	10.22 (2.73)	10.20 (2.78)	0.964£	<0.001
	After one week	7.08 (1.77)[a]	10.23 (2.77)	<0.001#	
	After eight weeks	7.07 (1.76)[a]	10.24 (2.78)	<0.001#	
	P value	<0.001	0.083		
Uninvolved	Before	25.71 (4.58)	25.71 (5.12)	1.004£	<0.001#
	After one week	16.77 (3.26)[a]	25.74 (5.16)	<0.001#	
	After eight weeks	16.76 (3.26)[a]	25.75 (5.17)	<0.001#	
	P value	<0.001	0.122		

MD: Mean Difference (Between groups).
£ Independent samples t-test
#ANCOVA: adjusted to pre-intervention variable (mother job)
*Repeated Measure ANOVA; a) significant difference with before; b) significant difference with after one week.

improvements that were sustained after one week and eight weeks, as compared to the pre-intervention phase.

Discussion

The primary achievement of this study lies in the significant improvement observed in the MHL of mothers, acknowledging their crucial role in the well-being of their children, as reported by Simkiss et al[38] Recognizing the strengths and weaknesses of parents' MHL and its impact on their children's mental health status provides valuable insights for mental health professionals aiming to design community-level interventions.[39] Limited studies have assessed the effects of MHL programs on parents' skills concerning mental health issues.[40] The existing research suggests that parental MHL is generally lacking and requires enhancement.[9] Parents often lack sufficient knowledge about the causes and symptoms of mental disorders in children.[41] Moreover, investigations into MHL in low and middle-income countries indicate that MHL improvement programs and mental health promotion for children and youth are not prioritized in many health systems.[42] However, evidence suggests that increasing MHL serves as an effective tool for mental health improvement and prevention.[4] Children and young people consistently express a desire for more information and support regarding mental health.[43] Systematic reviews emphasize the crucial role of parental support in acquiring MHL.[44] Thus, the implementation of MHL promotion programs among mothers becomes imperative.

Our findings also reveal an improvement in parenting style, specifically towards the authoritative parenting style, aligning with previous studies.[45] Prior research indicates that parenting styles are linked to adolescents' prosocial behavior[46] and play a crucial role in children's socialization and the mother–child relationship,[47] parenting programs promoting parental competency in healthy lifestyles have shown promising results for enhancing parenting styles.[48] While parenting is ideally a shared responsibility between both parents, not all fathers may have sufficient time to contribute to childcare, leaving much of the responsibility on mothers. Young mothers, particularly those with low education levels, may face challenges in providing adequate support for their children's growth and development.[49,50] The low education level of mothers is often associated with a lower socioeconomic status.[51] Addressing these challenges requires special attention and support in the form of affordable and easily accessible care services. Consequently, planners and policymakers should consider designing and implementing programs to promote MHL and parenting skills among mothers.

Strengths and limitations

This study boasts several strengths, including the evaluation of results over two different periods (one week and 8 weeks after the intervention) and the use of comprehensive statistical tests to assess changes. However, limitations include the study's setting in a large city, potentially limiting generalizability. Additionally, the sampling method focused solely on mothers, suggesting the need for future studies encompassing both parents.

Conclusion

The findings of this study underscore the impact of MHL and parenting styles programs on children's mental health, emphasizing the pivotal role of mothers in their daughters' health status. Implementing such programs among mothers is deemed essential for enhancing MHL and contributing to the stability of school-age children's mental well-being. Policymakers and healthcare providers should prioritize and implement these programs for parents within the school setting to foster a supportive environment for children's mental health.

Authors' Contribution

Conceptualization: Haleh Heizomi, Hamid Allahverdipour.
Data curation: Haleh Heizomi.
Formal analysis: Haleh Heizomi, Hamid Allahverdipour.
Funding acquisition: Hamid Allahverdipour.
Investigation: Haleh Heizomi.
Methodology: Haleh Heizomi, Hamid Allahverdipour, Mohammad Asgharijafarabadi.
Project administration: Hamid Allahverdipour.
Resources: Haleh Heizomi, Hamid Allahverdipour.
Software: Mohammad Asgharijafarabadi.
Supervision: Mohammad Asgharijafarabadi.
Writing–original draft: Haleh Heizomi, Hamid Allahverdipour, Mohammad Asgharijafarabadi.
Writing–review & editing: Hamid Allahverdipour.

Competing Interests

Hamid Alahverdipour and Mohammad Asgharijafarabadi are the advisory boards of the Biosocial Health Journal. Other authors declare that they have no competing interests.

Consent for publication

All respondents permitted publication, provided anonymity was ensured.

Ethical Approval

The study adhered to ethical standards outlined in the 1964 Declaration of Helsinki and its subsequent amendments. Informed consent was obtained from all participants, and permission to conduct the study was granted by the Ethical Research Committee of Tabriz University of Medical Sciences (#IR.TBZMED.REC.1397.527). Informed consent was obtained from all participants in the study. The study was performed in line with the principles of the Helsinki Declaration.

Funding

Tabriz University of Medical Sciences funded this study (IR.TBZMED.REC.1397.527).

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